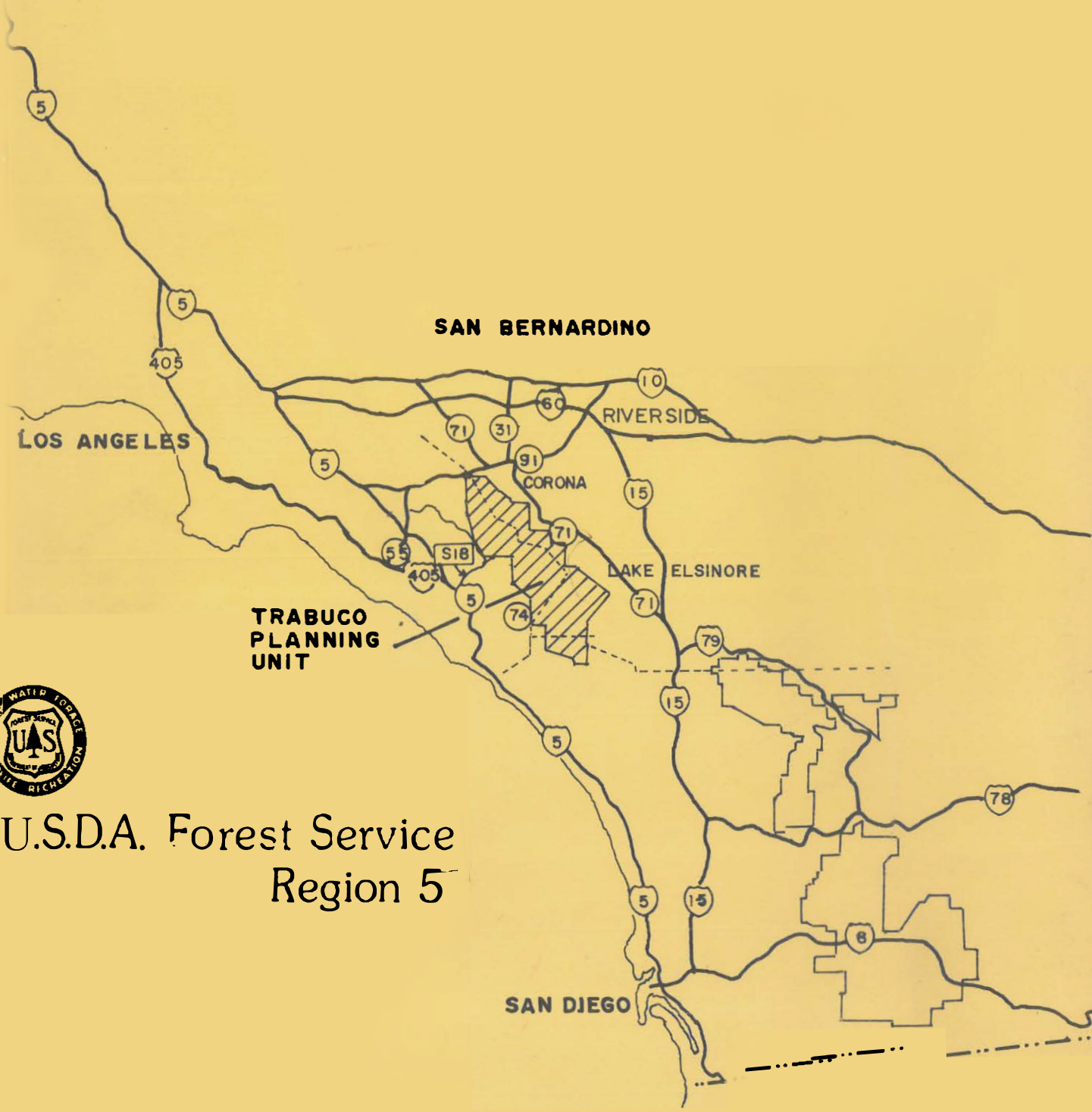
TRABUCO PLANNING UNIT

FINAL ENVIRONMENTAL STATEMENT

Trabuco Ranger District
Cleveland National Forest
August, 1978



U.S.D.A. Forest Service
Region 5

F. Range - Livestock Management

The livestock industry has experienced a degree of change since the arrival of the first padres and the establishment of their cattle herds and flocks of sheep on the surrounding lands.

During recent years, many rangeland areas in Orange and Riverside counties have been engulfed by urban development. Acreage in orchards and intensive crop production has risen rapidly, but some surrounding foothill areas are still devoted to livestock production.

Currently 3,640 acres of National Forest rangelands are being grazed, mostly adjacent to existing activities on private land. This land area is small in comparison to total Trabuco District acreage, but the demand for grazing use is strong. Private land parcels are a part of the grazing systems on some allotments. Vegetation types grazed are fuelbreaks, annual grass, oak woodland, coastal sage and chaparral.

The opportunities for increasing the present livestock potential of approximately 600 animal unit months appears favorable. It may best be achieved in conjunction with construction of fuelbreaks and fuel modification projects. In addition to vegetation manipulation, intensified range management such as an effective grazing system; effective permittee relationship; structural improvements such as water developments and fencing; non-structural improvements such as seeding and fertilizing; the right class of livestock such as cow/calf, steers, sheep or goats; and effective range administration would be needed.

G. Wildlife & Fish Habitat

1. Wildlife

The Santa Ana Mountain range has a variety of wildlife. There are 37 species of mammals and 139 species of birds that can be expected to be found within the study area.[16] Sixty two of the birds are considered residents. There are 46 species of amphibians and reptiles.

The richest habitats are the riparian areas and the oak and conifer woodlands. Less than 10% of the District consists of these habitat types. Because of the limited acreage and direct conflicts caused by other uses, management of these areas for wildlife is important. Special habitats essential to many species include snags, steep bluffs, cliffs, and caves and large rock formations.

The riparian vegetation is by far the most significant habitat type on the District. Riparian habitat is an integral and indispensable component of the ecosystem of arid environments and support higher population densities than any other habitat. Substantial numbers of wildlife species are dependent upon this habitat.[17]

16/ The Biota of the Santa Ana Mountain, Willis E. Pesquegnat

17/ Johnson, Roy R. and Dales Jones, 1977. Importance, preservation and management of riaprian habitat: A symposium. USDA Forest Service General Technical Report Rm-43

Several species of wildlife that are normally associated with "wild-land environments" exist today on the District: mountain lion, golden eagles, spotted owls and bobcat. All of these species are of present concern to the public and may require special management as human activities increase. The last refuge for these animals in the Orange County area exists largely in the Santa Ana Mountains. This factor will result in increased need to manage habitat for sensitive wildlife species.

General wildlife management goals for the forest have been to expand wildlife territories and to increase habitat diversity. These goals have been accomplished primarily through increasing the availability of water sources for wildlife and incorporating wildlife requirements into the design of vegetation modification projects. In the future, increased human activities will require more emphasis on protection of existing wildlife populations. Evaluation of needs for wildlife habitat management and their population status will be necessary to maintain healthy and viable populations.

Current habitat modification has primarily involved removal of chaparral during fuelbreak construction. Future work will involve vegetation management using a variety of tools, such as crushing and prescribe burning for wildlife habitat improvement. Most water developments for wildlife will be built where there is no existing perennial source. All species will be considered in the design. (Care will be taken to prevent adverse effects on the existing water source.)

2. Fisheries

Fish habitat is marginal on the forest, though 12 streams do provide a variety of habitats for aquatic organisms. Favorable conditions in these streams are greatly influenced by annual weather patterns.[18] Normally stream flow characteristics are rapid to intermittent during the winter and spring months. Several check dams have been constructed in five streams to reduce the velocity and movement of debris during these rapid flow periods. The fast depletion of continuous flows during summer months usually restricts available habitat for natural reproduction of cold water fishes. However, these streams do provide excellent aquatic habitat for other fish and invertebrate species.

The introduction of rainbow trout by the California Department of Fish & Game occurred as early as 1915. A change in weather trends has reduced the put-and-take rainbow trout program to winter and spring months. During recent years, only Trabuco, Silverado and San Juan Creek have been stocked with catchable rainbow trout.[19] Future possibilities for habitat management for fish production do exist on streams with more substantial flows and where pools occur.

18/ Cleveland National Forest Stream Survey Reports - 1967-1969

19/ California Dept. of Fish & Game News Release - April 12, 1976

Streams that have been stocked in the past few years are:

San Juan Creek - Stocked upstream from San Juan Ranger Station for about eight miles, (10,000 catchable size in 1976);

Silverado Creek - East of County Road 18 in canyon above Silverado, (8,000 catchable size in 1976);

Trabuco Creek - Stocked two and one-half miles above O'Neil Park up to and including half a mile of Holy Jim Canyon, (15,000 catchable size in 1976).

Steelhead salmon have historically made runs up San Mateo Creek. Last recorded observations were in 1958 when they reached Fishermans Camp and Tenaja Road crossing. During the wet winter of 1969 the run of steelhead salmon reached the National Forest boundary.[20]

Fish that may be found in streams in the planning unit are:

Coldwater species	
Rainbow Trout	Salmo gairdnerii
Warmwater species	
Green Sunfish	Lepomis cyanellus
Non-game species	
Mesquito Fish	Gambusia affinis
Arroyo Chub	Gila orcuttii

There are no permanent ponds or reservoirs for warmwater fisheries within the planning unit.

20/ Cleveland National Forest Fisheries - Habitat Management Plan 1970

3. Wildlife Species

a. Mammals (except deer and mountain lion)

Thirty seven species or subspecies of mammals are known to inhabit the study area. These species are part of an intricate food chain that starts with the smallest bacteria right up to the largest predator, the mountain lion.

Actually, up until 1908, the largest predator native to the Santa Ana Mountains was the grizzly bear (Ursus horribilis). In that year the last known grizzly in California was shot and killed at a site near Santiago Peak. Its decline in numbers in this area was largely due to conflict between the bears and apiary operators.

Black bears (Ursus americanus) are not native to the Santa Ana Mountains, however, in recent years, observations have been made. The most probable source for these bears is private owners from whom they have escaped or been released. Immigration is not likely.

Medium Size Predators

The medium size predators include the coyote (Canis latrans), grey fox (Urocyon cinereoargenteus), bobcat (Lynx rufus), badger (Taxidea taxus), raccoon (Procyon lotor), two species of skunks, the spotted skunk (Spilogale putorius) and the striped skunk (Mephitis mephitis), oppossum (Pidelphis marsupialis), longtail weasel (Mustela frenata), and the ringtail (bassariscus astutus). Most of this group have omnivorus food habits including such items as small mammals, birds, fruits, nuts, grains, insects, frogs, lizards, bird eggs and carrion. Exceptions are the bobcat, badger and weasel which prefer only small mammals and occasionally a bird.

Specific habitat requirements for each species varies. Those that prefer more open chaparral or grassland are the coyote, badger, and striped skunk. The grey fox, bobcat, spotted skunk, raccoon and oppossum prefer riparian, woodland, mature chaparral and dry wash habitats. The ringtail may be found in either habitat but is more common on rocky ridges, cliffs or caves near water.

Denning of all species in this group can be in a variety of places. Coyote and badger prefer holes but may use other shelter. Fox, bobcat, raccoon and ringtail prefer hollow logs, boulders, rock hollow trees. Skunks, oppossum and weasel will use all of these den sites plus old burrows, culverts and brush or rock piles.

Little is known about this group of predators in the Santa Ana Mountains, however to date these species are believed to be in a healthy state. Both the bobcat and the ringtail are presently under study by the District. Efforts to determine more accurately the status of these two populations through tracking methods and observation reports will add to our knowledge and improve our ability to manage their habitats.

Small Predators

The smaller predators consist of two main divisions: The flying mammals or bats and the terrestrial species. The bats include the big brown bat (Eptesicus fuscus), the hoary bat (Lasiurus cinereus), the pallid bat (Antrozous pallidus) and the California brown bat (Myotis californicus). The terrestrial species are represented by the ornate shrew (Sorex ornatus), the grey shrew (Notiosorex crawfordi) and the southern California mole (Scapanus latimanus).

Both groups feed primarily on insects although the shrews and moles will eat earthworms and other invertebrates. Shrews will also occasionally take other small mammals including their own kind.

Habitat differences are several. The grey shrew, for example, prefers dry alluvial fans, chaparral slopes or sagebrush where arid conditions occur. In contrast the ornate shrew prefers riparian or wet meadow habitats. The California mole likes porous soils in valleys or mountain meadows.

The bats prefer caves, tunnels, rock crevices, loose rocks and hollow trees for day roosting. An exception is the hoary bat which roosts almost exclusively in trees. During feeding periods, usually at night, bats will be active around wooded or dense brush habitats. The pallid bat actually requires tree habitat for night roosting. The grey shrew makes a nest of find vegetation sometimes with hair beneath agave plants, boards or other debris. The ornate shrew finds similar nest sites such as: dry grass, leaves, stumps, logs, brush piles or other debris. In contrast the mole nests below the surface of the ground in burrows.

Large Rodents

The larger sized rodents include the beaver (Castor canadensis) which was introduced to the Santa Ana Mountains about 1950 by California Department of Fish and Game. Recent observations have indicated they are surviving in marginal habitats in the San Juan and San Mateo drainages. They prefer maple, willow and alter for food and usually burrow in banks or construct stick houses for dens.

The only other large rodents are two rabbits including the brush rabbit (Sylvilagus bachmani) and the cottontail (Sylvilagus audubonii) and one hare, the blacktail jackrabbit (Lepus californicus). Both the jackrabbit and the cottontail prefer open country such as grassland or scattered coastal sage scrub. In contrast, the brush rabbit prefers thick chaparral. All three eat green vegetation.

The jackrabbit and the cottontail rest at the base of brush thickets or grass clumps during the day. Brush rabbits and cottontails both make grasslined nests for their young either in a depression or burrow. Jackrabbits conceal their young in scattered clumps of vegetation.

Medium Size Rodents

The western grey squirrel (Sciurus griseus), California ground squirrel (Citellus beechey), pocket gopher (Thomomys bottae), and the dusky-footed woodrat (Neotoma fuscipes) could be considered medium sized rodents. The grey squirrel prefers open live oak woodland or mixed conifer oak forests. They usually eat acorns or conifer seeds and nest either in tree cavities or in a nest made of sticks and barks high above the ground. The woodrat prefers heavy chaparral, streamside thickets and deciduous or mixed woodland. It also uses acorns for food plus a variety of seeds, nuts, fruits, fungi, or green vegetation. Their nests are usually large stick structures constructed on the ground or in trees.

The two burrowers are the ground squirrel and the pocket gopher. Ground squirrels prefer pastures, slopes with scattered trees and rocky ridges. Thick brush or woodland is avoided. The pocket gopher also uses these habitats but especially likes loamy soil or where digging is easy such as in mountain meadows. Feeding habits differ between these two species. Pocket gophers eat roots, tubers and some surface vegetation but seldom go above ground. In contrast, the ground squirrel eats green vegetation, seeds, acorns, mushrooms, fruits, berries, birds, eggs, and insects, and of course is active above ground.

Small Rodents

The smallest rodents are often the most maligned and least known of the rodent group. However, their link in the food web is just as important as the larger and better known mammals. All are seed eaters but each has a degree of individual foraging specialization associated with their preferred habitats. There is also some variety in the choice of nest sites by each species. Burrows, rock piles, rock crevices, tree cavities stumps, woodrat nests and ground debris are all possible nesting sites.

Foods and nest sites utilized are largely determined by the local habitat type in which the species lives. The variation of preferred habitats between these smallest rodents is described below:

The Merriam kangaroo rat (Dipodomy s. merriami) and Pacific kangaroo rat prefer sandy to rocky soils on slopes or in washes where there is scattered vegetation. The Cactus mouse (Peromyscus eremicus) is similar but also likes rocky outcrops. Where there is arid open sandy areas grown to weeds the San Diego pocket mouse (Perognathus fallax) will likely be found. The Brush mouse (Peromyscus boylei) prefers rocky sites in chaparral. In contrast the Western Harvest mouse (Reithrodontomys fulvescens) likes grassland, weed patches or dense vegetation near water. Meadow mouse or vole (Microtus californicus) habitat has some similarity to that of the Harvest mouse except that it is generally more moist, with rank growths of vegetation near streams or riparian areas. They will also use forests or woodlands that have little ground cover. The House mouse (Mus musculus) when not found around buildings may use grassy fields. Virtually all dry land habitats are utilized by the Deer mouse (Peromyscus maniculatus). Two species of small rodents use slopes grown with live oaks or dense chaparral. They are the California mouse (Peromyscus californicus) and the California pocket mouse (Perognathus californicus).

Studies are in progress to determine changes in diversity and numbers of these small mammals in response to management activities. Research by outside institutions, groups or individuals is also encouraged.

b. Deer

Mule deer (Odocoileus hemionus) were an important food source for local Indian groups. The early explorers and settlers also depended heavily on deer to supplement their meat diet.

Deer numbers have declined over the past three decades for several reasons. Fire suppression efforts have been increasingly successful and the result has been an increase in the climax stage of chaparral, which is less than suitable deer habitat. Deer access is poor due to dense vegetation where mature plants are woody with old growth. The annual new leader growth, important as a food source, is minimal and is generally out of reach for foraging. Important deer habitats are riparian, grassland and oak woodlands. These favored areas are being developed for housing on private lands and are favored by recreationists on Forest lands. Conflicts between deer use and other human uses have occurred.

Deer use is abundant on fuelbreaks where chaparral has recently been manipulated. These areas have an abundance of new sprouts and current leader growth. Forbs and grasses are also found in greater abundance. Utilization of the Main Street fuelbreak appears highest in summer and fall. However, in the spring, riparian areas are most used by does with fawns.

Frequently, an annual summer fire closure on the north end of the District prohibits deer harvest from that area. The annual deer harvest varies between 100-250 deer. This harvest serves as a herd management tool for the California Department of Fish and Game, as well as providing recreational opportunity.

There is an occasional influx of deer onto land which is used for intensive agriculture. Depredation damage is difficult to assess, but it can be expected to continue. The introduction of intensive farming to additional lands located adjacent to the National Forest boundary would increase depredation problems.

c. Mountain Lion

The only indigenous large mammal remaining on the study area, other than the mule deer, is the mountain (Felis concolor). It is the only natural predator of adult mule deer on the District and, as such, plays an important role in the ecology of the deer herd.

Other mountain lion prey includes rabbits, ground squirrels, wood rats and miscellaneous small mammals. Its' staple diet is deer.

The maintenance of a viable population of mountain lions in the Santa Ana Mountains is probably dependent upon two factors: large remote areas for raising young and the availability of prey species. There is need for further study to determine more specific habitat requirements for this relatively isolated population. The four year hunting moratorium which began in 1971 has been currently extended to 1983. The only provision for the take of lion is by permit issued after a depredation complaint has been investigated and substantiated by California Dept. of Fish and Game.

The California State Department of Fish and Game has completed statewide studies on mountain lion to determine their population status.[21] In addition, two phases of mountain lion study have been conducted by the Trabuco District. The first phase determined that lions are distributed throughout the Santa Ana Mountains and that reproduction is occurring. The second phase established track transects for monitoring indices of population

21/ California Mountain Lion Investigations With Recommendations for Management, Sitton, 1977, CA Dept. of Sifh & Game, Federal Aid in Wildlife Restoration Project W-51-R

change and determine a population estimate. Results indicated a population of from 12-16 adult lions in the Santa Ana Mountain area.[22] At least two family groups (female with kittens) were observed on the area during 1977.[23]

Annual deer mortality due to lions would be comparable to the harvest by deer hunters, or in other words from 100 to 250 herd. Predation on domestic animals has also occurred. 21 animals were reported lost in 1976-1977. This included 1 goat, 2 dogs, and 18 sheep. Increased depredation is expected as development on private lands increase in the area.

d. Raptors

Nineteen species of raptors have been observed within, or just outside, the Trabuco Planning Unit, and another 6 are suspected of occurring. Thirteen species are known to nest in the Planning Unit and include the turkey vulture, white tailed kite, Cooper's hawk, marsh hawk, red-tailed hawk, red-shouldered hawk, golden eagle, American kestrel, screech owl, great horned owl, longeared owl, barn owl and spotted owl. The sharp-shinned hawk, ferruginous hawk, bald eagle, short-eared owl, saw-whet owl, and burrowing owl have also been observed, but are only seen during the winter months. The rough-legged hawk, Swainson's hawk, osprey, prairie falcon and peregrine falcon are suspected of occurring, but have not been observed.

(1) Buteo

Red-shouldered hawks utilize riparian woodlands for nesting habitat and hunting. The more adaptable red-tailed hawk may utilize riparian or chaparral, depending upon the location of suitable nesting habitat, and may nest on either cliffs or trees. The red-shouldered hawk always utilizes woodlands.

Ferruginous hawks winter on the east side of the Planning Unit in the vicinity of the Temescal Valley. Rough-legged hawks and Swainson's hawks are known to occur on the west side, but have not been observed in the Planning Unit.

(2) Harrier

Although primarily a lowland raptor, marsh hawks will nest in virtually any substantial plot of grassland or marsh area on the ground. Most of their feeding activities are directly related to these two habitats, but also include subclimax chaparral.

22/ Mountain Lion Track Study - Traboco Ranger District, Cleveland N.F. (U.S. Forest Service, & California Fish & Game Cooperative Project)

23/ On record at Trabuco Ranger District Office, Santa Ana, CA

(3) Accipiter

Both Cooper's hawks and sharp-shinned hawks occur regularly, but only the Cooper's is resident. Cooper's hawks prefer forested and riparian woodlands near a source of water and always utilize California coast live oaks as nest sites in this area. Sharp-shinned hawks are completely migratory, but are frequently seen in many areas.

(4) Kites

White-tailed kites require open grasslands and fields for hunting and small groves of trees and large bushes, such as elderberry, for nesting. They feed primarily upon small rodents which are closely associated with grassy areas.

(5) Vultures

Turkey vultures are scavangers and are found year round throughout the Planning Unit. One nest discovered in 1974 in San Mateo Canyon was located in an old mine and contained two young. Turkey vultures commonly utilize rock cavities and jumbled boulders associated with cliffs as nest sites. Large trees are used as communal roosts.

(6) Eagles

Both species of eagles are covered in the Threatened and Endangered and Unique Species Section.

(7) Owls

The nocturnal component of the raptors is represented by six species, which nest in the Planning Unit. Two other species the short-eared owl and saw-whet owl, occur only as migrants. Virtually all habitat types are utilized by one or more of these species.

e. Upland Game Birds

Chukar were introduced into the southern California area during the late 1950's.[24] They are very elusive and are found on rock, grassy and brushy slopes of arid canyons.

The five species of upland game birds found within the planning unit are valley and mountain quail, chukar, mourning dove and band-tailed pigeon. The quail are residents, with populations described as abundant. Doves and pigeons are fairly common, but populations are greatest during the winter months.

24/ California Department of Fish & Game

The pigeons roost in the crowns of the oaks and pine trees. The quail and doves are generally found on open grassland areas which are joined with woodland or chaparral.

The hunting of upland game birds is one of the more popular recreation activities of the area.

f. Water Birds

No water birds are listed, although they may occasionally migrate through the planning unit. Their presence may be influenced by the large bodies of water located outside the Forest. It is possible that small flocks or individual birds could be attracted to the area during the winter and spring season, when pools of water may occur in drainages.

g. Songbirds, Hummingbirds and Woodpeckers

The District harbors many species of songbirds which are either resident yearround, seasonally resident or migratory. Several recent breeding bird surveys have begun to document breeding territories and species distribution. The National Audubon Society sponsors an annual Christmas Bird Count in which areas adjacent to the northern boundaries of the District were included. Review of the count data has not yielded any significant facts other than to substantiate the presence of particular species.[25] More information needs to be gathered concerning the wintering bird population since wintering birds may be more specific in their habitat requirements than summer residents.[26]

Important factors influencing the variety of species include the presence of water or moisture and the horizontal or vertical diversity of plant species and structure. Numbers of species are affected by seasonal and yearly weather changes.

A list of birds that can be encountered during various seasons of the year can be found in the appendix. Several of the most common birds and their habitat requirements are discussed below.

Several species of flycatchers are found on the District including the Ash-throated flycatcher, Black phoebe, and Phainopepla. Named for their insect eating habits, these flycatchers can be found in semi-arid country, shady stream areas, and oak scrub, respectively.

25/ The Biota of the Santa Ana Mountains and Dr. Brad Strom, CA State U., Fullerton (personal communication)

26/ Johnson, Roy R. and Jones, Dale A., 1977 Importance, Preservation and Management of Riparian Habitat: A symposium. USDA Forest Service General Technical Report Rm.-43

Violet-green swallows, Cliff swallows, and White-throated swifts can be seen maneuvering through the air. They are found in open forests, mountains, and canyons. Their food source consists mainly of insects caught in flight.

California thrashers and Mockingbirds are two of the mimics found in the Santa Ana Mountains. The trasher is found in chaparral, while the mockingbird prefers more urban areas. Their diet consists of insects and fruit.

Many Warblers can be seen in the area including the Yellow-rumped, Wilson's black-throated grey, and the Yellow. These brightly colored birds feed mainly on insects and are migratory. Their habitats vary, but all prefer woodlands of some type, either oak, conifer or riparian.

Several species of seed eaters are represented. Lesser Goldfinch, House Finch, Brown Towhee, Rufous-sided Towhees, and Dark-eyed Juncos can be spotted at various seasons of the year. Juncos are winter residents, and goldfinches are spring and summer residents, while the Towhees and House Finches are yearly residents. Towhees are ground feeders and require dense brushland or chaparral. Goldfinches follow the ripening of dandelion seeds and are found in open woods or wooded streams. House Finches prefer open woodlands or coastal scrub, while Juncos are seen in conifer or oak woodlands.

White-crowned, Fox, Song, and English Sparrows can be often seen in the Santa Ana Mountains. These birds are mainly seed eaters and prefer habitats with scattered cover, or in woodland or gardens. They are seasonal residents except the English which is a resident yearround.

The Common Bushtit and Plain Titmouse both prefer woodland, riparian, or chaparral and are yearly residents. The Mountain Chickadee migrates to lower elevations in the summer and prefers conifer or mountain forests. All three species will appear in small groups and eat seeds, acorn mast, berries, and insects.

White-breasted Nuthatches are found yearround on the District in oak, conifer, and riparian woodlands. They consume bark, insects, seeds, and nuts.

Wrentits are heard frequently in the chaparral but rarely seen. They are resident members of the District and eat both insects and berries. The migratory House Wren and the resident Berwick's Wren are found in chaparral thickets and oak woodlands.

The raucous Scrub Jay is a common yearly resident in the foothills, chaparral and oak woodland. They are omniverous.

Several species of Hummingbirds can be seen on the District including the Rufous, Black-chinned, Allen's and Anna's. The latter is the only resident hummer. The others follow the nectar supply and may migrate as far south as South America.

The Common Flicker, Acorn, and Nuttall's Woodpecker are the most common on the District. Their diet consists of tree boring insects, but will also include acorns, sap or berries. They favor oak or riparian woodlands as habitat. Snags, telephone poles or dead tree limbs are important for nesting areas as all are cavity nesters.

h. Reptiles and Amphibians

Thirty two reptilian species and 12 or 13 amphibian species have been recorded as occurring within the planning. The reptiles include 12 lizards, 20 snakes and 1 turtle; while the amphibians include 5 salamanders, 3 toads and 4 or 5 frogs.[27]

The observation frequency of these animals are generally related to seasons, abundance of rainfall and characteristics of the ephemeral streams. With limited mobility, the animals are confined to local habitats. Oak woodland and associated grassland, coniferous forest and riparian areas make good amphibian habitat; while rocks, logs, washes, leaf litter and pools provide important niches. The western pond turtle (Clemmys marmorata) can be found at pools in the study area. The lizards and snakes are more versatile and are associated with most ecosystems. Feeding habits vary, but insects and small animals appear to play an important part in this process. Reptiles are more active during the summer months. The most common lizards are the sagebrush (Sceloporus graciosus), southern aligator (Gerrhonotus multicarinatus) and the western fence (Sceloporus occidentalis). The coloration of horned lizards (Phrynosoma coronatum) tends to camouflage their presence on the area, but alert observers will notice their presence.

Two of the lizard species ar quite rarely observed and little is known concerning their distribution and densities. These species are the California legless lizard (Anniella pulchra) and the orange-throated whiptail (Cnemidophorus hyperythrus). The legless lizard is predominately associated with oak woodland and riparian conditions; and, to a lesser extent, chaparral and soft chaparral. Special habitat requirements include damp soil of a sandy or loamy nature, though thick black humus is preferred. Legless lizards will not be found in areas that have adobe or clay soils. The orange-throated whiptail is known to occur only in Hot Springs Canyon,

27/ The Biota of the Santa Ana Mountains and Dr. Bradstrom, CA State U.; Fullerton (personal communication)

where vegetation is scattered sycamore frequently interspersed with low, relatively large brushes. This lizard's range is dependent upon the range of the drywood termite (Reticulitermes hesperus). Agricultural practices generally are destructive to most lizard populations.

Because of the limited available habitat, two amphibians may require special management. They include: the arboreal salamander (Aneides lugubris) and the red-legged frog (Rana aurora). Oak woodland and conifer forest aare their typical habitat and perennial water sources are required by the red-legged frog.

4. Threatened, Endangered and Sensitive Species

a. Southern Bald Eagle (Haliaeetus leucocephalus leucocephalus)[28] is classed as an endangered species. A migrant to the area, it is occasionally observed in the vicinity of large bodies of water. The most recent sighting was in late summer 1974, near Modjeska Canyon.

b. Spotted Owl (Stirix occidentalis)[29] is a resident in some forested areas and has been recognized by the Regional Forester as a sensitive species. Spotted owl habitat in the planning unit consists primarily of the old growth big cone douglas fir, big leaf maple association. Large mature oak habitat is also used. Canopy cover of 40% or greater is required. A recent helicopter survey of the District revealed a wide distribution of approximately 600 acres of potential owl habitat. A spotted owl pair is known to inhabit about 100 acres of this mapped area. Probably less than two thirds of the potential habitat could be considered good quality. Normally the territory of one pair of owls is about 300 acres in size, however, there is evidence that much less acreage may be adequate. A source of water must be available within the home range of a nesting pair.

c. Prairie Falcon (Falco mexicanus)[30] has been recognized by the Regional Forester as a sensitive species. The abundance and distribution of prairie falcons in California has declined and observations of breeding pairs established that only 50% produced young. Many organizations and individuals are concerned about the future of this unique bird. No existing nest sites are known; however, potential habitat does exist. These birds are primarily transitory to this area. Further survey work is needed to determine if this falcon does nest in the area. Observation reports are on file at the Supervisor's Office.

28/ United States List of Endangered Fauna, May 1974, USDI - Fish & Game Service. At the Crossroads, 1974, California Department of Fish & Game

29/ The Status of the Spotted Owl in California. Administrative Study by Gordon I. Gould, Jr., August 1974. Cooperative Study - USFS No. 39-4870

30/ A study of the Prairie Falcon Populations in California. Ronald L. Garret and Dan J. Mitchell. California Department of Fish & Game Administrative Report No. 73-2, April 1973